

Application No. 09/783,940
Filed: February 15, 2001
TC Art Unit: 2664
Confirmation No.: 2337

AMENDMENTS TO THE CLAIMS

1. (currently amended) A switching system, connectable to a communications network, ~~for transferring at least one and operable to transfer logical multicast data unit units between a plurality of nodes on the communications network, comprising:~~

at least one input port connectable to the communications network, ~~and the at least one input port being operative to receive a logical multicast data unit from the network;~~

at least one output port connectable to the communications network, ~~and the at least one output port being operative to transmit the a plurality of logical multicast data unit units onto the network as logical multicast data units; and~~

at least one output port controller coupled between the at least one input port and the at least one output port,

wherein the output port controller is operative to replicate the received ~~logical multicast data unit~~ a predetermined number of times within the output port controller for subsequent transmission of the predetermined number of replicated data units onto the communications network at the a respective output port as logical multicast data units.

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2. (currently amended) The switching system of claim 1 wherein the output port controller includes a lookup table comprising a plurality of entries and the output port controller is further operative to determine the predetermined number of times to replicate the received logical multicast data unit by referencing at least one entry in the lookup table.

3. (currently amended) The switching system of claim 2 wherein the output port controller is further operative to access identity information contained in a header field of the received logical multicast data unit and use the identity information to reference the entry in the lookup table.

4. (currently amended) The switching system of claim 1 further including a buffer memory coupled between the input port and the output port controller, the buffer memory being operative to store a single representation of the received logical multicast data unit.

5. (currently amended) The switching system of claim 4 further including a bus interconnecting the buffer memory and the output port controller, the buffer memory being further operative to

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provide the single representation of the received logical multicast data unit to the output port controller by way of the bus.

6. (currently amended) A switching system, connectable to a communications network, ~~for transferring at least one and operable to transfer logical multicast data unit units~~ between a plurality of nodes on the communications network, comprising:

at least one input port connectable to the communications network, ~~and the at least one input port being operative to receive a logical multicast data unit from the network;~~

at least one output port connectable to the communications network, ~~and the at least one output port being operative to transmit the logical multicast data unit a predetermined number of times onto the network as logical multicast data units;~~ and

at least one meter coupled between the at least one input port and the at least one output port,

wherein the at least one meter is operative to determine whether the predetermined number of transmitted logical multicast data units conform to predetermined quality of service criteria by an analysis of the received logical multicast data unit.

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7. (currently amended) The switching system of claim 6 further including at least one buffer memory operative to store a single representation of the received logical multicast data unit and provide the single data unit representation to the output port for subsequent transmission onto the network.

8. (original) The switching system of claim 7 wherein the buffer memory comprises at least one class queue.

9. (original) The switching system of claim 7 wherein the meter is coupled between the input port and the buffer memory.

10. (original) The switching system of claim 7 wherein the meter is coupled between the buffer memory and the output port.

11. (original) The switching system of claim 6 wherein the meter comprises a token bucket.

12. (currently amended) A switching system, connectable to a communications network, ~~for transferring at least one and operable to transfer logical multicast data unit units~~ between a plurality of nodes on the communications network, comprising:

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at least one input port connectable to the communications network, and the at least one input port being operative to receive a plurality of logical multicast data units from the network;

at least one output port connectable to the communications network, and the at least one output port being operative to transmit each logical multicast data unit a respective predetermined number of times onto the network as logical multicast data units; and

at least one buffer memory operative to store a single representation of each logical multicast data unit and provide the respective logical multicast data unit representations to the a respective output port for subsequent transmission onto the network as logical multicast data units,

wherein the buffer memory is further operative to store the respective logical multicast data unit representations in a preferential manner based at least in part on the respective predetermined number of times the data units are subsequently transmitted onto the network at the respective output port as logical multicast data units.

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13. (original) The switching system of claim 12 wherein the buffer memory comprises at least one class queue.

14. (original) The switching system of claim 13 wherein the class queue comprises a first-in first-out memory.

15. (currently amended) A method of operating a switching system connectable to a communications network, ~~for transferring the switching system being operable to transfer logical multicast data units between a plurality of nodes on the communications network, the method comprising the steps of:~~

~~receiving a logical multicast data unit at an input module of the switching system;~~

~~providing the logical multicast~~received~~ data unit to an a respective output module of the switching system;~~

~~replicating the logical multicast~~received~~ data unit a predetermined number of times within the respective output module; and~~

~~transmitting the replicated logical multicast data units onto the communications network as logical multicast data units by the respective output module.~~

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16. (currently amended) The method of claim 15 further including the step of referencing at least one entry in a lookup table included in the respective output module to determine the predetermined number of times to replicate the ~~logical multicast~~ data unit.

17. (currently amended) A method of operating a switching system, connectable to a communications network, ~~for transferring at least one~~ the switching system being operable to transfer logical multicast data ~~unit-units~~ between a plurality of nodes on the communications network, the method comprising the steps of:

receiving a single ~~logical multicast~~-data unit at an input port of the switching system;

analyzing the single ~~logical multicast~~-data unit at a meter of the switching system to determine whether the ~~logical multicast~~ data unit conforms to predetermined quality of service criteria; and

in the event the ~~logical multicast~~-data unit conforms to the predetermined quality of service criteria, transmitting the single ~~logical multicast~~-data unit onto the communications network a predetermined number of times at ~~an~~ a respective output port of the switching system as logical multicast data units.

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18. (currently amended) A method of operating a switching system, connectable to a communications network, ~~for transferring at least one the switching system being operable to transfer logical multicast data unit-units~~ between a plurality of nodes on the communications network, comprising the steps of:

receiving a plurality of ~~logical multicast~~ data units at at least one input port of the switching system;

storing the plurality of ~~logical multicast~~ data units in a preferential manner in a buffer memory of the switching system based at least in part on respective predetermined numbers of times the ~~logical multicast~~ data units are subsequently transmitted onto the communications network as logical multicast data units; and

transmitting the plurality of ~~logical multicast~~ data units onto the communications network at ~~an~~ a respective output port of the switching system as logical multicast data units in accordance with the preferential manner in which the ~~logical multicast~~ data units are stored in the buffer memory.